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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,390	10/21/2003	Mark Duron	40129/01101	2375

30636 7590 05/02/2007
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EXAMINER	
JOSEPH, JAISON	

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
05/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/690,390	DURON ET AL.	
	Examiner	Art Unit	
	Jaison Joseph	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 02/005/2007 have been fully considered but they are not persuasive.

Regarding claims 10 – 17, applicant argues, "applicant respectfully... also allowable". However examiner respectfully disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a feedback loop in conjunction with a reflected (received) signal) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, Applicant argues, "...the Levy patent neither teaches nor describes nor suggests the use of a feedback loop in conjunction (combination) with a reflected signal. Rather, Levy uses the original output signal together (combination) with weighting coefficients derived from a new, received input signal...to generate the feedback signal." (Applicants remarks on page3). Examiner is puzzled by this argument. Applicant is arguing the Levy Patent does teach and doesn't teach generating the feedback signal in combination of a received signal. Furthermore regarding claim 10, Levy et al teach a method comprising the step of demodulating a reflection signal into in-phase and quadrature signal (see figure 3, element 36), filtering the in-phase signal to isolate an in-phase error signal, filtering the quadrature signal to isolate the quadrature error signal (see figure 3, element 31), modulating the in-phase error signal

and quadrature error signal to create a feedback signal (see figure 3, element 32), and combining the reflection signal and the feed back signal to cancel at least a portion of echo signals in the reflection signals (see element 34).). Thus Levy teaches all cited limitations. Therefore Examiner maintains his rejection. Further Applicant is reminded that the examiner is entitled to give broadest reasonable interpretation to the language of the claims.

Regarding claim 1 – 9 and 19, Applicant argues, "Levy combines via subtractor 34 a feedback signal from DAC 33 with transmission signal from unit 20"". However examiner respectfully disagrees. Levy clearly teaches in figure 3, that the subtractor 34 combines the feedback signal with received signal from the hybrid coupler via band pass filter 45. Thus subtractor canceling the echo in the received signal by subtracting a feedback signal from the received signal. Therefore Helms in view of Levy teach all cited limitations. Thus Examiner maintains his rejection.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10 - 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Levy et al (US Patent 4,335,214).

Regarding claim 10, Levy et al teach a method comprising the step of demodulating a reflection signal into in-phase and quadrature signal (see figure 3, element 36), filtering the in-phase signal to isolate an in-phase error signal, filtering the quadrature signal to isolate the quadrature error signal (see figure 3, element 31), modulating the in-phase error signal and quadrature error signal to create a feedback signal (see figure 3, element 32), and combining the reflection signal and the feed back signal to cancel at least a portion of echo signals in the reflection signals (see element 34).

Regarding claim 11, which inherits the limitations of claim 10, Levy et al further teach the filtering steps include one of low pass filtering, band pass filtering, and high pass filtering.

Regarding claim 12, which inherits the limitations of claim 10, Levy et al further teach amplifying the feedback signal prior to the combining step (the time domain complex transversal filter has the weight taps which controls the amplitude of the signal).

Regarding claim 13, which inherits the limitations of claim 10, Levy et al further teach converting the in-phase signal and the quadrature signal from an analog signal to digital signal (see figure 3, element 35), and converting the in-phase error signal and the quadrature error signal from the digital signal to analog signal (see figure 3, element 33).

Regarding claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 10 is applicable hereto.

Regarding claim 15, which inherits the limitations of claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 11 is applicable hereto.

Regarding claim 16, which inherits the limitations of claim 14, Levy et al further teach the combiner element is one of a splitter and a directional coupler (see figure 3, element 34, 43,45).

Regarding claim 17, which inherits the limitations of claim 14, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 12 is applicable hereto.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helms et al (US Patent 6,236,315) in view of Levy et al (US Patent 4,335,214).

Regarding claim 1, Helms et la teach a system comprising a transmitter element creating an interrogation signal and transmitting the interrogation signal (see figure 2, element 201, 202, 203, and 204) and a receiver element receiving a reflection signal of the interrogation signal and canceling the echo signal sin the reflection signal. Helms et al is silent on combining the reflection signal and a feedback signal to cancel at least a

portion of radio frequency signals in the reflection. However in analogous art Levy et al teach canceling echo signal in a received signal by combining the reflection signal and a feedback signal to cancel at least a portion of radio frequency signals in the reflection (see figure 3, component 30, Levy et al teach canceling the echo in a received (reflected) signal (output signal of element 45) by combining the received signal and feedback signal (the output of element 33)). Therefore it would be obvious to an ordinary skilled in the art at the time the invention was made to use Levy's echo canceller in Helms system. The suggestion or motivation to do so is no synchronization between the transmitter and receiver of the terminal in which it is incorporated and which lends itself to less complex digital implementation (see column 3, lines 10 –15).

Regarding claim 2, which inherits the limitations of claim 1, Levy et al further teach feedback signal is derived by isolating an error component of the reflection signal (see figure 3 element 30).

Regarding claim 3, which inherits the limitations of claim 2, Levy et al further teach the error component of the reflection signal is isolated in one of an in phase signal and a quadrature signal (see inputs to element 32).

Regarding claim 4, which inherits the limitations of claim 2, Levy et al further teach wherein the error component of the reflection signal is isolated by filtering the reflection signal (see element 31).

Regarding claim 5, which inherits the limitations of claim 4, Levy et al further teach the feedback signal is combined with the reflection signal within an impulse response time of a filtering element which is filtering the reflection signal.

Regarding claim 6, which inherits the limitations of claim 1, Helms et al further teach wherein the reflection signal is reflected by a radio frequency tag (see abstract).

Regarding claim 7, which inherits the limitations of claim 1, Helms et al further teach wherein the feedback signal is derived through one of analog processing and digital processing (see column 1, lines 33 – 65).

Regarding claim 8, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 2 is applicable hereto.

Regarding claim 9, which inherits the limitations of claim 8, the claimed method including the features corresponding to subject matter mentioned in the rejection of claim 3 is applicable hereto.

5. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levy et al (US Patent 4,335,214).

Regarding claim 19, which inherits he limitations of claim 14, Levy et al are cited as explained in the above paragraph. Levy et al is silent on having a third filter to filter the feedback signal before input into the combiner element. However, at the time the invention was made, it would be obvious to an ordinary skilled in the art at the time the invention was made to use a filter to reduce the noise in the feedback path.

Allowable Subject Matter

6. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaison Joseph whose telephone number is (571) 272-6041. The examiner can normally be reached on M-F 9:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jaison Joseph
04/27/2007

CHIEH M. FAN
SUPERVISORY PATENT EXAMINER